# Louder than words: power and conflict in interprofessional education articles, 1954–2013

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**CONTEXT** Interprofessional education (IPE) aspires to enable collaborative practice. Current IPE offerings, although rapidly proliferating, lack evidence of efficacy and theoretical grounding.

**OBJECTIVES** Our research aimed to explore the historical emergence of the field of IPE and to analyse the positioning of this academic field of inquiry. In particular, we sought to investigate the extent to which power and conflict – elements central to interprofessional care – figure in the IPE literature.

**METHODS** We used a combination of deductive and inductive automated coding and manual coding to explore the contents of 2191 articles in the IPE literature published between 1954 and 2013. Inductive coding focused on the presence and use of the sociological (rather than statistical) version of power, which refers to hierarchies and asymmetries among the professions. Articles found to be centrally about power were then analysed using content analysis.

**RESULTS** Publications on IPE have grown exponentially in the past decade. Deductive coding of identified articles showed an emphasis on students, learning, programmes and practice. Automated inductive coding of titles and abstracts identified 129 articles potentially about power, but manual coding found that only six articles put power and conflict at the centre. Content analysis of these six articles revealed that two provided tentative explorations of power dynamics, one skirted around this issue, and three explicitly theorised and integrated power and conflict.

**CONCLUSIONS** The lack of attention to power and conflict in the IPE literature suggests that many educators do not foreground these issues. Education programmes are expected to transform individuals into effective collaborators, without heed to structural, organisational and institutional factors. In so doing, current constructions of IPE veil the problems that IPE attempts to solve.

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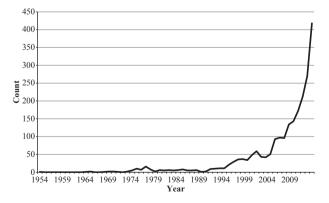
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# INTRODUCTION

Interprofessional education (IPE) has become a core curricular component in many health professions education programmes internationally. Learning with, from and about other health professions is widely considered to be an important – even an essential - step in order to be primed and readied to engage in collaborative practice. 1 Collaborative practice, moreover, is deemed critical to the optimal functioning of health care systems as it is believed to reduce medical error, improve efficiency, patient safety and provider satisfaction, reduce health care costs and generally lead to improved health outcomes.<sup>2</sup> Although the hopes for IPE are high and many, the current evidence to support its efficacy remains sparse,<sup>3</sup> even while the number of articles about IPE initiatives published annually continues to grow (Fig. 1). Can IPE really be an antidote to longstanding professional conflict and power struggles, as some have suggested?<sup>4</sup>

As faculties of medicine look to their curricular offerings and reconsider the importance of IPE for their trainees, taking stock of the IPE literature is of critical importance. The gaps between hope and evidence, and between rhetoric and reality, represented the starting point for the research presented here. Some in the IPE community suggest that IPE has become so normalised as a logical and sensible way to 'do' education that it may be that insufficient attention is paid to its theoretical underpinnings. This suggestion aligns with our individual experiences, developed from attending conferences and reading the literature. We were particularly interested in looking at the extent to which issues of power and conflict are described in the IPE



**Figure 1** Annual counts of articles on interprofessional education in the Web of Science and PubMed databases, 1954–2013

literature. There exists a long sociological tradition of considering the effects of existing professional hierarchies, <sup>6–13</sup> and this literature suggests that professionals use demarcating strategies that divide rather than connect, and that institutional and organisational structures limit the ease with which collaborative practices can be implemented.

Although others before us have mapped medical education scholarship historically, their analyses did not cover IPE. <sup>14</sup> Similarly, a recent review of the interprofessional literature did not delve into IPE. <sup>15</sup> We felt this omission to be important and worth addressing. To surpass our individual perspectives, we set out to explore the extent to which these ideas have permeated IPE curricula and scholarship through a structured review of the published IPE literature.

## **METHODS**

Theoretically, this article is anchored in constructionism, <sup>16</sup> which suggests that the rise or fall of specific educational objects or tools (here IPE) is contingent on historical and social factors. Therefore, by examining the ways in which educators and researchers describe IPE, including what types of IPE interventions are considered worthy of description in the academic literature, how educators evaluate IPE interventions and – more generally – what they consider to be legitimate research about IPE, it is possible to glean insights into how the field of IPE is framed and positioned. This framing and positioning provides a sense of what is considered 'normal' in IPE.

Inspired by Kuhn,<sup>17</sup> we see 'normal' mainstream science as paradigmatic or, in other words, as clustering around a common set of theories, methodologies and questions. What paradigmatic science finds is thus defined by this common set and does not allow for explorations that contradict it. Evaluating the core concerns of IPE research thus offers a sighting of the paradigm. What the IPE research community chooses to study and, importantly, *not* to study reflects the research paradigm within which it works and the assumptions that underpin it, as well as the objects of knowledge that it deems legitimate.

Our research used metadata on articles published in the scientific literature to investigate – either deductively or inductively – the evolution of language in IPE research. The methodology used in

this paper has enabled the investigation of a wide range of topics, from medical education<sup>14</sup> to obesity<sup>18,19</sup> and to interprofessionalism more broadly.<sup>15</sup> Figure 2 provides an overview of the different steps we took, which included the generation of a dataset, automated deductive and inductive coding, manual coding, tabulation and content analysis.

#### **Data collection**

Data for this paper were collected on 4 May 2014 by searching the Web of Science and PubMed databases for publications related to IPE. Our interest in the landscape of IPE research suggested an inclusive query, given the wide range of terms used across the interdisciplinary and interprofessional spectra. 15 Albeit that we understand that research on interprofessional collaboration or on the nurse-doctor relationship is related to the IPE literature, our focus is on the scholarship produced by scholars who identify with the IPE paradigm and thus label their work as such. Consequently, our search, which yielded 1915 and 1411 articles, respectively, in Web of Science (as 'Topic') and PubMed (among 'All Fields') published between 1954 and 2013, used the following terms: ('interprofessional education') OR ('inter-professional education') OR ('multiprofessional education') OR ('multi-professional education') OR ('multidisciplinary education') OR

('multi-disciplinary education') OR ('interdisciplinary education') OR ('inter-disciplinary education') OR ('transprofessional education') OR ('trans-professional education') OR ('trans-disciplinary education') OR ('trans-disciplinary education').

We merged both datasets.

## Data analysis

We used two strategies to analyse publication metadata - deductive and inductive - and conducted them on a merged dataset of 2191 unique publications (Fig. 2). The deductive strategy used a Python code written specifically to generate frequency counts of the different words used by authors in their titles. Every word used in more than 1% of all articles was then reduced to its simplest root form. For example, 'education', 'educate' and 'educational' were all reduced to the root 'educat', which was used as a wildcard. The list of all root terms was then fed into another Python program that coded all titles to generate a binary matrix in which 0 signals 'no match' and 1 signals 'match'. For instance, the title 'The paradox of interprofessional education: IPE as a mechanism of maintaining physician power?' matched the top 1% of keywords on 'interprofessional', 'interprofessional education', 'IPE' and 'physician', all of which were coded as '1'.

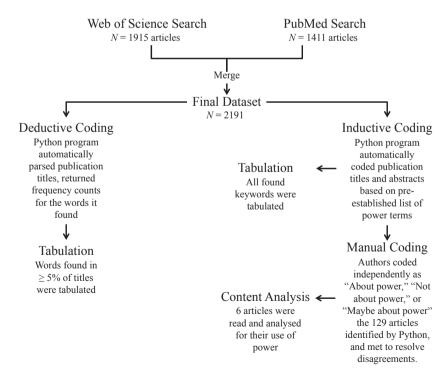


Figure 2 Search and coding strategy

Other top 1% keywords, such as 'nursing', 'assess' and 'experience', were coded as '0'. Data were then aggregated by word (column), by publication (row), and by year.

We deductively coded titles rather than abstracts or full articles for several reasons. Firstly, scientists choose titles to represent the content of the full article. Secondly, because the title serves as an attention-seeking device to draw the reader to read the full text of the article, word choice in titles illustrates which concepts and methodologies hold the most symbolic power in the field.<sup>20</sup> Thirdly, and more pragmatically, using abstracts or full texts generates a messier portrait, increasing frequency counts and making it harder to detect the signal from the noise, especially in light of the fourth reason: only 1367 of the identified 2191 articles (62.4%) contained abstracts, and we did not want to miss potentially relevant articles without abstracts, nor bias results in favour of articles with abstracts.

The second Python code was used again to analyse publication metadata inductively. Given our concern with power in IPE, we developed a list of 144 powerand conflict-related keywords using a thesaurus (Appendix S1, online). This list was fed into the program to code titles, which generated another binary matrix as described above. Once the title coding was completed, we repeated the process with abstracts in order to ensure the fulsome capture of potentially relevant articles. After an initial reading of the abstracts of the articles thus identified, we elected to select only articles with abstracts that contained one or both of the two keywords most closely aligned with our research subject: 'power' and 'conflict'. Indeed, the most frequently used keywords included 'concern', 'influence', 'control' and 'power', but their meanings often differed from those for which we were searching. For example, 'control' was used most frequently in the phrases 'controlled trial' or 'controlled study', or referred to symptom or infection control, or was used in the context of quality control, none of which had anything to do with the kind of sociological power we are interested in. A total of 129 articles were thus identified.

To identify which articles of these 129 made a sociological rather than statistical use of 'power' without being partial to researchers in our own circle, we blinded ourselves to the authors' names, individually coded all articles as 'Yes, about power',

'May be about power' or 'Not about power', and finally discussed and resolved disagreements as a pair. A third party, external to the project, further reviewed the 129 articles; thus every article identified as 'Yes' or 'May be' about power was reconsidered by the authors. The six articles thus identified to be about power and IPE were then submitted to content analysis.<sup>21</sup> We sought to identify the nature of the depictions and discussions of power and conflict, whether issues of power and conflict were integral to the articles, and whether power and conflict were theorised.

It is important to note that despite having blinded ourselves to the authors' names while coding, four of the six papers in our final selection were written by teams that included either people we knew professionally or ourselves. We would like to point out that many of these authors have published extensively about IPE, yet none of their *other* papers made it into our final selection. Perhaps unsurprisingly, we found that birds of a feather flock together.

## **RESULTS**

## Quantitative textual meta-analysis

#### Deductive coding

Deductive coding of the data suggested that interprofessional education as a research field is mostly concerned with education (58.0%), health (21.5%), students (14.5%), care or caring (13.8%), learning (9.8%), and collaboration (8.6%). Practices (8.9%)and programs (8.8%) are also prominent in the sample. Practice and students, in particular, have shown significant growth in the IPE literature since the mid- and early-nineties, respectively. Nurses and nursing (7.8%), as well as patients (6.0%) are also prominent in titles. Table 1 provides the full breakdown of keywords that figured among 5% or more of the articles in the sample, with their associated frequencies. As a proportion of the sample, communication (1.0%), leadership (0.7%) and professionalism (0.2%) were rarely present, despite being skills and attitudes that are commonly mentioned in the recent interprofessional education in the literature. 22-24 Teaching was also relatively absent compared to learning, featuring in only 3.2% of articles. Mapping the use of these four keywords over time shows that they emerged on the IPE agenda only at the turn of the 21st century, and partly explains their low frequency overall.

Table 1 Deductive keywords coding: Count and frequency (%) of occurrences in titles of 2191 IPE articles

Keyword	Count	%
Inter*	1308	59
Educat*	1271	58
Professional*	1065	48
Interprofessional/inter-professional	944	43.
Interprofessional education/	677	30
inter-professional education		
Health*	472	21
Student*	317	14
Care/caring	302	13
Interdisciplinary	301	13
Learning	214	9
Practice*	194	8
Program*	193	8
Collaboration/collaborative	189	8.
Multi*	183	8
Develop*	177	8
Nurse/nursing	170	7
Medical*	168	7
Health care/healthcare	141	6
Patient*	132	6
Pre*	123	5
Based	121	5

# Inductive coding

Inductive coding of article titles found only 29 of our 144 power- and conflict-related keywords (Table 2), and only 79 articles counted one or more of these keywords in their titles. Among abstracts, 77 of our 144 keywords were found, in a total of 555 articles. Keywords found in titles or abstracts in more than 1% of articles can be found in Table 2. As we have noted, several kevwords were used in contexts that did not reflect a sociological understanding of the word, but rather often statistical or biomedical understandings. 'Control' was most often used in the phrases 'controlled trial' and 'controlled study', and in the context of symptom, infection or quality control; similarly, power often referred to statistical power. Most of these articles were thus false positives. Focusing on 'conflict' and 'power', the conceptual anchors of this paper, yielded 50 new articles to

Table 2 Counts of articles on interprofessional education mentioning conflict- and power-related keywords in their titles or abstracts

	Count in	Count in	
Keyword	titles, n	abstracts,	
Adverse	1	16	
Anxiety	2	5	
Apprehension	1	3	
Argue/argument	2	50	
Chaos	1	1	
Concern*	3	100	
Conflict*	1	45	
Control*	20	85	
Controversial	1	1	
Crisis	1	12	
Damage*	1	1	
Destruction	1	2	
Disorder	9	18	
Emotion*	1	9	
Felt/feeling	0	54	
Hierarch*	0	17	
Impair*	1	4	
Influence	6	96	
Injury	3	3	
Irritable	2	1	
Maltreat*	1	1	
Mess*	2	8	
Obstruct*	2	2	
Passion*	1	6	
Power	6	48	
React/reaction	2	16	
Sensation	1	1	
Sensitive	0	17	
Struggle*	1	9	
Tension*	5	25	
Trial*	0	42	
Wound*	3	2	

\* Wildcard.

be coded, for a total of 129 in our power and conflict dataset.

To identify the articles that were truly about power and conflict (i.e. true positives) among the 129 identified inductively, we then independently read and coded them all in the three steps described

above. Through these three steps, we agreed that only six articles specifically focused on issues of power or conflict. Our manual search yielded no further articles on power and conflict in the interprofessional *education* literature, but identified four articles on power relationships in the broader interprofessional *care* literature.

## Content analysis

We conducted content analysis on the six articles identified inductively as explicitly addressing issues of power and conflict. Of these, two articles articulated the need to attend to notions of power and conflict, but were limited in their theoretical explication of issues. One of these articles provided a review of the medical and social science literatures to highlight tensions between desired notions of flattened hierarchies prevalent in IPE programmes, and medical socialisation and authority.<sup>25</sup> Despite pointing out these discrepancies, it did not rely on a strong conceptualisation of power and conflict in its analysis. The second article used critical incident analysis to examine issues of collaboration among professionals treating eating disorders. 26 The incidents described highlighted a variety of power and conflict issues, which were further elaborated in the discussion. Here again, the article's theoretical underpinnings were limited, leading the authors to make superficial suggestions, such as that better communication and conflict resolution may make power struggles disappear. 26 These two articles 25,26 represent tentative, initial explorations of power dynamics.

A third article described a study which involved interviews with newly qualified doctors about what they had learned from nurses in the workplace.<sup>27</sup> The authors discussed issues of professional hierarchies, role negotiation and (inter)professional socialisation, and clearly articulated the importance of power, medical dominance, gender and professional conflict in how these issues played out. Despite this, the authors' conclusion focused primarily on the importance of recognising the role that nurses play in the education of junior doctors, and called for more focus on informal learning opportunities.<sup>27</sup> In the end, by diverting attention from (shying away from?) power-related issues, many of the implications of the article's fascinating findings were left undissected.

The other articles tackled issues of power more explicitly. One of these was an editorial, which

positioned IPE as an ideology and boundary object. <sup>28</sup> The authors commented:

Since the discursive logic of IPE positions it as 'naturally' and 'inevitably' leading to collaborative practice, the IPE discourse sets up an expectation that the structural changes required for effective collaborative practice will someday occur when we finally find the way to 'do IPE right'.<sup>28</sup>

This article<sup>28</sup> invited more IPE research focusing on power and conflict to dissect and revisit the previously atheoretical literature that takes for granted the idea that IPE will lead to systems change.

Another article troubled the underlying assumptions of IPE by drawing upon activity theory and notions of boundaries.<sup>29</sup> The authors argued that overly simplistic constructions of stable professional roles within teamwork models belie the complexity of interprofessional and interdisciplinary work in clinical care settings. In doing so, they also deconstructed the fallacy that simply aiming to provide excellent patient care will unite health care workers around a common goal and cause hierarchies, conflict and power dynamics to disappear.<sup>29</sup>

The final article used Witz's<sup>10</sup> theory of professional closure to elucidate group dynamics in an IPE initiative.<sup>30</sup> The authors highlighted strategies used by different professional groups to exert power within interprofessional relations, and provided the most direct examination of power issues in IPE that we were able to locate. This study<sup>30</sup> stands as an exemplar for future power-related research in IPE.

#### DISCUSSION

Interprofessional education has become a popular educational activity and, as our study shows, is an increasingly prevalent topic in the health professions education literature. The vast majority of articles about IPE, however, focus on curriculum and the design of specific IPE sessions or programmes and do not critically examine the power dynamics that IPE is meant to address. As our data demonstrate, notions of power and conflict are virtually absent from the IPE literature. Only six of 2191 (0.3%) articles on IPE made substantial reference to power, and only three articles integrated it throughout, which suggests that the paradigm that labels itself IPE has not capitalised on findings from other literatures, such as those in sociology,

in the broader interprofessional care literature, or in the literature focusing on the doctor-nurse relationship. Although our initial impressions of the IPE literature did suggest that power would rarely be one of its central concerns, we were shocked by the scarcity of such research. Particularly given the commanding presence of power in the sociological literature, as well as its obvious presence in the interprofessional care literature, the absence of power from the IPE literature is both mysterious and disquieting. If issues of power are known and recognised in clinical practice, why then does the IPE literature fail to address them? And if the literature on IPE ignores these realities, how do we expect IPE to become an educational model that will better lead students in the health professions to collaborate?

The absence of power and conflict from the vast majority of the IPE literature suggests that most educators are not attending to these fundamental issues, or that they may be attending to them in a subdued manner, without using vocabulary that is 'charged' and that may alienate key stakeholders in the effort: physicians. Most articles seem to accept the assumption that IPE is an effective way to prepare learners to engage in collaborative practice. If it were effective, then there would be no need to pay heed to the structural, organisational or institutional issues that create and reproduce hierarchies among the health care professions. Instead, responsibility for change rests with educational programmes, which are expected to transform the minds, hearts and practices of individual learners, who will, in turn, change the system.

We do not need to look far to see the naivety of this approach. As far back as the 1970s, researchers in institutional theory suggested that educators make token or symbolic changes in response to institutional pressures but that these changes are decoupled from actual classroom practices. Moreover, practices imposed upon teachers from above have been shown to be often reconstructed and reshaped to align with teachers' pre-existing beliefs and practices, demonstrating the difficulty of enacting change in large systems. Similarly, the reliance on curriculum as a corrective for social and structural problems has also recently been critiqued within medical education.

Much of IPE currently appears to be driven by the notion that there is a script – elusive thus far, but worth the continued quest to find – that, if sensi-

tively adopted, will enable health professionals to enact their respective parts in cheery collaborative harmony. Once this is unearthed (presumably as a result of the various curricular pilots, programmes and experiments), it will provide educators with a recipe for successful and standardised collaborative practice. The appeal of a silver bullet with which to erase power and hierarchies from medicine is obvious, and the early success of surgical checklists<sup>35,36</sup> or interventions to reduce catheter-related bloodstream infections<sup>37</sup> created hope. Yet there is mounting evidence that context deeply influences outcomes, even for protocols at the sharp end or technical side of health care interventions. 38-40 One size may never fit all, especially when what is at stake is something as fragile and intangible as the quality of interactions among people, and its impact on care delivery.

The analysis presented here suggests that IPE is one area in which education has been misused as a 'solution' to structural, organisational and institutional issues. This is a phenomenon well known in the broader education literature: when confronted with an unmanageable issue (poverty, crime, sexism), we often turn to education as a solution of last resort in the hope that the next generation may fix it.41 We argue that it is not only unrealistic, but also inappropriate to expect learners to be catalysts for systems change. Health professions educators and leaders are shirking responsibility if they give up on currently practising generations of health care providers, cobble together an IPE curriculum and expect that a sprinkling of fresh faces with more egalitarian ideas will change the system for the better. The fact that power and conflict are absent from the vast majority of articles written about IPE suggests that educators and researchers are hesitant to engage with the difficult yet undeniable truth that power structures shape health systems and health professional interactions. 6-13 Failure to engage with power peculiarly positions IPE as a 'solution' to an amorphous and unarticulated problem. By ignoring power and conflict, the IPE literature obscures what exactly it is that IPE initiatives are theoretically aiming to correct. This absence speaks louder than words.

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Ethical Approval: not applicable.

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#### SUPPORTING INFORMATION

Additional Supporting Information may be found in the online version of this article:

**Appendix S1.** Power- and conflict-related keywords (n = 144) sourced from a thesaurus.

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